

PRELIMINARY AMENDMENT

may be substituted. It will also be appreciated that the above techniques may be used for calculating probabilities and choosing genotypes (or more general DNA patterns) consisting of combinations of more than two peaks.

Referring now to FIG. 33, a flow chart is shown generally defining the process of statistically calling genotype described above. In FIG. 33 block 402 shows that the height of each peak is determined and that in block 404 a noise profile is extrapolated for each peak. The signal is determined from the height of each peak in block 402 and the noise for each peak is determined using the noise profile in block 406. In block 410, the signal-to-noise ratio is calculated for each peak. To account for a non-Gaussian peak shape, a residual error is determined in block 412 and an adjusted signal-to-noise ratio is calculated in block 414. Block 416 shows that a probability profile is developed, with the probability of each peak existing found in block 418. An allelic penalty may be applied in block 420, with the allelic penalty applied to the adjusted peak probability in block 422. The probability of each combination of components is calculated in block 424 with the ratio between the two highest probabilities being determined in block 426. If the ratio of probabilities exceeds a threshold value, then the genotype is called in block 428.

IN THE ABSTRACT:

Please amend the abstract as follows (a marked-up copy of the amended abstract is attached to this Amendment):

The method and system for identifying a biological sample generates a data set indicative of the composition of the biological sample. In a particular example, the data set is DNA spectrometry data received from a mass spectrometer. The data set is denoised, and a baseline is deleted. Since possible compositions of the biological sample may be known, expected peak areas may be determined. Using the expected peak areas, a residual baseline is generated to further correct the data set. Probable peaks are then identifiable in the corrected data set, which are used to identify the composition of the